

CLAIM AMENDMENTS

1. (previously presented): A satellite communication system comprising:
a plurality of satellites and a plurality of gateways,
said satellite communication system being bidirectionally coupled to a
terrestrial communication system through said plurality of gateways,
said satellite communication system and said terrestrial communications
system comprising together a data communication network having a plurality of
nodes including source nodes, destination nodes and intermediate nodes,
wherein multiple copies of a packet are selectively generated within the data
communications network based on a criteria that includes at least one of (a)
whether the packet was previously duplicated by a previous node, and (b) a
direction of transmission, from source to destination or from destination to source,
wherein said multiple copies of a packet coexist within the data
communications network and are routed, using at least in part satellite-resident
routers and gateway-resident routers, over a plurality of different paths between a
particular source node and a particular destination node, and
wherein at least one duplicate copy of a given packet is not used during the
execution of a packet reordering procedure in the destination node, or at an
intermediate node.
2. (original): A system and network as in claim 1, wherein certain of said paths are
carried over satellite-to-satellite cross-links.
3. (original): A system and network as in claim 1, wherein certain of said paths are
carried over satellite-to-gateway uplinks and downlinks.
4. (original): A system and network as in claim 1, wherein at least one of said
paths is carried over a satellite-to-user terminal uplink and downlink.
5. (original): A system and network as in claim 1, wherein said packets are
TCP/IP packets (or packets with equivalent protocol) containing information for enabling
said duplicate packets to be ignored.
6. (original): A system and network as in claim 1, wherein said plurality of
gateways couple said satellite communication system to said terrestrial communication
system at a plurality of points, including at least at one of regional networks, national

networks, commercial networks, Internet Service Providers (ISPs), or directly to a backbone network.

7. (original): A system and network as in claim 1, wherein said plurality of satellites comprise a constellation of non-geosynchronous orbit satellites.

8. (original): A system and network as in claim 1, wherein said plurality of satellites comprise a constellation of low earth orbit satellites.

9. (original): A system and network as in claim 1, wherein said plurality of satellites comprise a constellation of medium earth orbit satellites.

10. (original): A system and network as in claim 1, wherein said packets are TCP/IP or equivalent packets.

11. (original): A system and network as in claim 1, wherein at least some of said packets comprise voice data.

12. (original): A system and network as in claim 11, wherein said system routes said packets comprised of voice data over semi-permanent paths that are established during the duration of a call.

13. (original): A system and network as in claim 11, wherein said at least some of said packets that comprise voice data comprise vocoded voice data that is generated external to a user terminal and that is input to the user terminal for transmission to at least one satellite.

14. (original): A system and network as in claim 11, wherein said at least some of said packets that comprise voice data comprise vocoded voice data that is generated internal to a user terminal for transmission to at least one satellite.

15. (original): A system and network as in claim 1, wherein said duplicate packets are transmitted from a plurality of satellite-resident routers to a single gateway-resident router, and are injected into the Internet by the single gateway-resident router.

16. (original): A system and network as in claim 1, wherein said duplicate packets are transmitted from a plurality of satellite-resident routers to a plurality of gateway-resident routers, and are injected into the Internet by each of the plurality of gateway-resident routers.

17. (previously presented): A satellite communication system comprising:
a plurality of satellites and a plurality of gateways,
said satellite communication system being bidirectionally coupled to a terrestrial communication system through at least said plurality of gateways,
said satellite communication system and said terrestrial communications system comprising together a data communication network having a plurality of nodes including source nodes, destination nodes and intermediate nodes,
wherein multiple copies of a packet are selectively generated within the data communications network based on a criteria that includes at least one of (a) whether the packet was previously duplicated by a previous node, and (b) a direction of transmission, from source to destination or from destination to source, and
wherein the multiple copies of the packet are routed, using at least in part satellite-resident routers and gateway-resident routers, over a plurality of different paths between a particular source node and a particular destination node, and
wherein at least one of the multiple copies of a packet is not used during the execution of a packet reordering procedure in the destination node, or at an intermediate node.

18-25 (canceled)

26. (original): A system and network as in claim 17, wherein certain of said paths are carried over satellite-to-gateway uplinks and downlinks, and certain other paths are carried over satellite-to-satellite cross-links.

27. (original): A system and network as in claim 17, wherein at least one of said paths is carried over a satellite-to-user terminal uplink and downlink.

28. (original): A system and network as in claim 17, wherein said packets are TCP/IP packets (or packets with equivalent protocol) containing information for enabling said duplicate packets to be ignored.

29. (original): A system and network as in claim 17, wherein said plurality of gateways couple said satellite communication system to said terrestrial communication system at a plurality of points, including at least at one of regional networks, national networks, commercial networks, Internet Service Providers (ISPs), or directly to a backbone network.

30. (original): A system and network as in claim 17, wherein said plurality of satellites comprise a constellation of non-geosynchronous orbit satellites.

31. (original): A system and network as in claim 17, wherein said plurality of satellites comprise a constellation of low earth orbit satellites.

32. (original): A system and network as in claim 17, wherein said plurality of satellites comprise a constellation of medium earth orbit satellites.

33. (original): A system and network as in claim 17, wherein individual ones of said packets conform to TCP/IP or an equivalent protocol.

34. (original): A system and network as in claim 17, wherein at least some of said packets comprise voice data.

35. (original): A system and network as in claim 34, wherein said system routes said packets comprised of voice data over semi-permanent paths that are established during the duration of a call.

36. (original): A system and network as in claim 34, wherein said at least some of said packets that comprise voice data comprise encrypted voice data.

37. (original): A system and network as in claim 17, wherein said multiple copies of a packet are transmitted from a plurality of satellite-resident routers to a single gateway-resident router, and are injected into the Internet by the single gateway-resident router.

38. (original): A system and network as in claim 17, wherein said multiple copies of a packet are transmitted from a plurality of satellite-resident routers to a plurality of gateway-resident routers, and are injected into the Internet by each of the plurality of gateway-resident routers.

39. (previously presented): A method for packet data transmission through a data communications system comprising satellite routers and terrestrial routers, comprising steps of:

- originating a stream of packets at a source node;
- selectively duplicating individual ones of the stream of packets within the data communications network based on a criteria that includes at least one of (a) whether the packet was previously duplicated by a previous node, and (b) a direction of transmission, from source to destination or from destination to source;
- operating said satellite routers to route duplicate packets over different paths, including wireless paths through a medium subject to transmission impairments; and
- reconstructing the stream of packets from received packets while ignoring an arrival of an already received and valid packet.

40-41 (canceled)

42. (new): A satellite communications system comprised of a plurality of satellites and a plurality of gateways, said satellite communications system being bidirectionally coupled to a terrestrial communication system through at least said plurality of gateways, said satellite communications system and said terrestrial communication system comprising together a data communication network having a plurality of nodes including source nodes, destination nodes, and intermediate nodes, wherein multiple copies of a packet are selectively generated within the data communication network, based on at least one of a plurality of criteria, said criteria including a measure of the quality of the transmission medium and whether the packet was previously duplicated by a previous node, and wherein the multiple copies of the packet are routed, using at least in part satellite-resident routers and gateway-resident routers, over a plurality of different paths between a particular source node and a particular destination node, and wherein at least one of the multiple copies of a packet is not used during the execution of a packet reordering procedure in the destination node, or at an intermediate node.